

Appln. No. 10/691,364
Docket No. GP-303400/GM2-0068

REMARKS / ARGUMENTS

Status of Claims

Claims 1-12 are pending in the application and stand rejected. Applicant herein provides clarifying remarks, for consideration by the Examiner, to traverse the rejections, and adds new Claims 13-14, leaving Claims 1-14 for consideration upon entry of the present Amendment.

Applicant respectfully submits that the rejections under 35 U.S.C. §102(b) and 35 U.S.C. §103(a) have been traversed, that no new matter has been entered, and that the application is in condition for allowance.

Status of Drawings

The drawings filed on October 22, 2003, are accepted by the Examiner.

Rejections Under 35 U.S.C. §102(b)

Claims 7-12 stand rejected under 35 U.S.C. §102(b) as being anticipated by Ito et al. (DE 3216820, hereinafter Ito).

Applicant traverses this rejection for the following reasons.

Applicant respectfully submits that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, *in a single prior art reference.*" *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). Moreover, "[t]he identical invention must be shown in as complete detail as is contained in the *** claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Furthermore, the single source must disclose all of the claimed elements "arranged as in the claim." *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984). Missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference.

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Titanium Metals Corp. v. Banner, 778 F.2d 775, 780, 227 U.S.P.Q. 773, 777 (Fed. Cir. 1985).

Regarding Claims 7-10

The Examiner alleges that Ito discloses the claimed invention including a valve shield 12 comprising: a first end proximate the end of the valve guide; a second end at a defined distance from the first end; an outer surface disposed between the first and second ends and facing the intake port; and an inner surface disposed between the first and second ends and facing the valve stem; wherein the defined distance is equal to or greater than the defined displacement. Paper 20040706, page 2.

In respectful disagreement with the Examiner, and contrary to the Examiner's allegation, Applicant finds Ito to disclose a valve stem (14) that reciprocates in a valve guide (10) which is provided with *a passage (12)*, at one end connected (18) to the duct upstream of the throttle whilst its other end has an outlet orifice (26) directed into the combustion chamber. Basic Abstract (translated) (emphasis added), Figure 1A.

In comparing Ito with the instant invention, Applicant submits that Ito discloses a *passage (12)* and does not disclose the *valve shield* as claimed, and specifically does not disclose *the element of the defined distance (between the first and second ends of the valve shield) being equal to or greater than the defined displacement (of the valve stem movable relative to the valve guide)*, as claimed in the instant invention. In respectful disagreement with the Examiner, Applicant respectfully submits that the Examiner has not met the burden of showing where in Ito each and every element of the claimed invention can be found, and therefore cannot properly establish anticipation therefrom.

While the instant invention describes and claims *a valve shield having a defined distance that is equal to or greater than a defined displacement* for the purpose of shielding the valve stem from exposure to high fraction from fuel, Applicant submits that Ito is directed to an inlet assembly of an internal combustion engine having *a bypass passage (12)* that extends (18) from a point upstream of the throttle (20) to an outlet orifice (26) directed into the combustion chamber (30). Basic Abstract, Figure 1A. Since Ito discloses a passage (12) that bypasses throttle (20), *Ito necessarily allows the passage*

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of high fraction from the fuel to contact the valve stem (14), and therefore does not disclose the claimed valve shield, which is structured to shield the valve stem from high fraction from the fuel. Furthermore, not only does Ito not disclose each and every element of the claimed invention, Ito is directed to a substantially different invention.

Dependent claims inherit all of the limitations of the parent claim.

Regarding Claim 9 Specifically

The Examiner alleges that Ito inherently discloses the claimed invention such that the valve stem is shielded from direct exposure to a fuel containing high boiling fraction. Paper 20040706, page 3.

In respectful disagreement with the Examiner, and in view of the foregoing, Applicant submits that Ito *necessarily allows the passage of high fraction from the fuel to contact the valve stem (14), and therefore does not disclose the claimed valve shield, which is structured to shield the valve stem from high fraction from the fuel.* Since the passage (12) of Ito extends (18) upstream of throttle (20), it necessarily permits the flow of fuel and therefore cannot provide a shield to the same fuel.

Regarding Claim 10 Specifically

The Examiner makes a broad sweeping allegation that Ito discloses the claimed invention without specifically citing any element in Ito where such disclosure can be found.

Here, Applicant is claiming a structural relationship between the valve shield thickness t and the valve guide thickness T , such that thickness t is equal to or greater than about $1/8$ of thickness T and equal to or less than about $1/4$ of thickness T .

In comparing Ito as referenced with the instant invention, Applicant does not find the claimed invention disclosed in Ito, and the Examiner has not stated with specificity where such disclosure can be found.

Absent specific disclosure of each and every element of the claimed invention, the cited reference cannot be anticipatory.

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Regarding Claims 11 and 12

The Examiner alleges that Ito inherently discloses the claimed invention of a method for lessening the accumulation of high boiling fraction between a valve stem and a valve guide of a combustion engine, and references the Ito elements of a valve stem (14) and a valve guide (10) in support thereof. Paper 20040706, page 3.

As discussed previously, Applicant respectfully submits that Ito is specifically absent such disclosure as the invention of Ito is directed to a passage (12) that extends (18) upstream of throttle (20) and therefore cannot provide a method of shielding the valve stem (14) from exposure of high boiling fraction, as claimed.

Furthermore, Claim 11 also recites, inter alia, "...wherein the shielded portion of the valve stem is exposed to *less* air-fuel mixture than if unshielded...". If Applicant assumes that the Examiner is correct and that the passage (12) of Ito is in fact the valve shield (12) as alleged by the Examiner on page 2 of Paper 20040706, then the shielded portion of the valve stem (14) is exposed to *more (not less)* air-fuel mixture than if unshielded, since a shielded valve stem in Ito necessarily includes the passage (12) that permits passage of the air-fuel mixture.

Accordingly, not only is Ito absent the disclosure of each and every element of the claimed invention, but is directed to a substantially different invention.

Dependent claims inherit all of the limitations of the parent claim.

Regarding Claim 12 Specifically

The Examiner alleges that Ito discloses the claimed invention by making general reference to valve guide (10) and valve stem (14), but without specifically citing where it may be found in Ito that the shielding includes shielding at least a portion of the defined surface area for a length equal to or greater than the defined displacement, as claimed in the instant invention.

Absent specific disclosure of each and every element of the claimed invention, the cited reference cannot be anticipatory.

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Regarding Inherency with Respect to Claims 9 and 11

The Examiner alleges that Ito inherently discloses that the valve stem is shielded from direct exposure to a fuel containing high boiling fraction, and that Ito inherently discloses a method for lessening the accumulation of high boiling fraction between a valve stem (14) and a valve guide (10). Paper 20040707, page 3.

In respectful disagreement with the Examiner, Applicant finds no support in Ito for the alleged inherency, and the Examiner has not stated with specificity where the necessary element supporting inherency may be found.

With regard to Ito, Applicant submits that not only is it not necessary to use the claimed valve shield to control the flow of fuel as a function of engine parameters, but as discussed above, the use of such a valve shield is contrary to the teaching of Ito, and therefore the claimed valve shield cannot be inherent in Ito.

By alleging anticipation through inherency absent specific reference to a necessary element that must be present in the cited reference, Applicant respectfully submits that the Examiner has failed to properly meet the burden of a showing of anticipation.

In view of the foregoing remarks, Applicant submits that Ito does not disclose each and every element of the claimed invention and therefore cannot be anticipatory, and that the Examiner has failed to properly meet the burden of a showing of anticipation. Accordingly, Applicant respectfully submits that the Examiner's rejection under 35 U.S.C. §102(b) has been traversed, and requests that the Examiner reconsider and withdraw of this rejection.

Rejections Under 35 U.S.C. §103(a)

Claims 1-6 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Ito in view of Matthews (U.S. Patent No. 5,592,913, hereinafter Matthews).

The Examiner acknowledges that Ito does not disclose a first clearance dimension and looks to Matthews to cure this deficiency. Paper 20040607, page 4.

Applicant traverses this rejection for the following reasons.

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Applicant respectfully submits that the obviousness rejection based on the References is improper as the References fail to teach or suggest each and every element of the instant invention. For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). The Examiner must meet the burden of establishing that all elements of the invention are taught or suggested in the prior art. MPEP §2143.03.

The Examiner alleges that Ito teaches the claimed invention except for the first clearance dimension.

Applicant respectfully disagrees. Applicant submits that not only does Ito not teach the first clearance dimension, but for the reasons set forth above, Ito also does not teach a valve shield extending from the end of the valve guide and extending into the intake port. Rather, Ito discloses a passage (12) having an extension (18) that permits a flow of air-fuel mixture to bypass throttle (20), which exposes valve stem (14) to high boiling fraction from the fuel. Matthews does not cure the deficiency of Ito.

Furthermore, the Examiner alleges that it would have been obvious to one of ordinary skill in the art to modify Ito by employing the first clearance dimension in order to maintain the first clearance dimension between the valve guide and the valve stem during the operation of the engine. In making this allegation, the Examiner has not addressed the claim element of "wherein the second clearance dimension is equal to or greater than the first clearance dimension", as claimed in the instant invention. Applicant finds no mention by the Examiner of the second clearance dimension, nor how it relates to the first clearance dimension. Without a teaching of each and every element of the claimed invention, a prima facie case of obviousness cannot be established.

Dependent claims inherit all of the limitations of the parent claim.

Regarding Claims 2-6 Specifically

In alleging obviousness and in view of the foregoing remarks relating to anticipation, the Examiner has not stated with specificity where the elements of:

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"...the valve shield has a length equal to or greater than the defined displacement", as claimed in Claim 2 may be taught;

"...the second clearance dimension is equal to or greater than about two times the first clearance dimension", as claimed in Claim 3 may be taught;

"...the second clearance dimension is equal to or greater than about five times the first clearance dimension", as claimed in Claim 4 may be taught;

"...the second clearance dimension is sized such that the second outer surface has a lower operating temperature than the first outer surface", as claimed in Claim 5 may be taught; and

"...the valve shield at least partially surrounds the valve stem such that the valve stem is shielded from direct exposure to a fuel containing high boiling fraction", as claimed in Claim 6 may be taught.

Absent a teaching of each and every element of the claimed invention, a prima facie case of obviousness cannot be established.

In view of the foregoing, Applicant submits that the References fail to teach or suggest each and every element of the claimed invention and disclose a substantially different invention from the claimed invention, and therefore cannot properly be used to establish a prima facie case of obviousness. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

Regarding Claims 1-6 in the Alternative

Alternatively, Applicant respectfully submits that there is no motivation to modify Ito to obtain the claimed invention, as Ito itself teaches away from such an invention as claimed in the instant application, and therefore a prima facie case of obviousness cannot be established. MPEP §2145(D)(1) provides that a reference teaches away from the claimed invention is a significant factor in determining obviousness.

As discussed above, Ito teaches a passage (12) having an extension (18) that bypasses throttle (20), thereby directly exposing valve stem (14) to an air-fuel mixture, which is not only contrary to the instant invention, but also teaches away from the

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purpose of the claimed invention, which is to shield the valve stem from direct exposure to an air-fuel mixture.

In view of the foregoing, Applicant submits that the References teach away from the claimed invention, and therefore cannot properly be used to establish a prima facie case of obviousness. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

Regarding New Claims 13-14

Applicant has added new Claims 13 and 14, which are directed, using alternative language, to the claimed subject matter of Claims 1 and 7, respectively, but with additional language to more specifically describe the subject matter considered to be the invention. Support for Claims 13-14 may be found at paragraph [0017] of the specification as originally filed. No new matter has been added.

In view of the previous discussion relating to Claims 1 and 7, Applicant submits that new Claims 13-14 are directed to allowable subject and respectfully requests entry and notice of allowance thereof.

In light of the foregoing, Applicant respectfully submits that the Examiner's rejections under 35 U.S.C. §102(b) and 35 U.S.C. §103(a) have been traversed, and respectfully request that the Examiner reconsider and withdraw these rejections.

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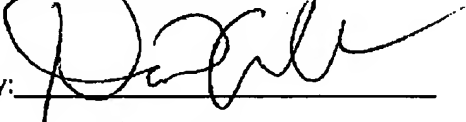
The Commissioner is hereby authorized to charge any additional fees that may be required for this amendment, or credit any overpayment, to Deposit Account No. 06-1130.

In the event that an extension of time is required, or may be required in addition to that requested in a petition for extension of time, the Commissioner is requested to grant a petition for that extension of time that is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to the above identified Deposit Account.

Respectfully submitted,

CANTOR COLBURN LLP

Applicant's Attorneys

By: 

David Arnold
Registration No: 48,894
Customer No. 23413

Address: 55 Griffin Road South, Bloomfield, Connecticut 06002
Telephone: (860) 286-2929
Fax: (860) 286-0115